[Music]

Ivette:
Hello, I'm Ivette Torres and welcome to another edition of the Road to Recovery. Today we'll be talking about new technologies for whole body health and wellness. Joining us in our panel today are Dr. Melissa Pinto, Assistant Professor at Emory University's Nell Hodgson Woodruff School of Nursing, Atlanta, Georgia; Dr. Steven Chan, Physician at the University of California, Davis School of Medicine, Sacramento, California; Andrew Isham, Researcher at the Center for Health Enhancement Systems Studies, University of Wisconsin-Madison, Madison, Wisconsin; Vikram Surya Chiruvolu, Founder and Executive Director of TechnoTherapy.org, Washington, D.C. Steven, what do we mean by the new technologies in the area of healthcare? What is their purpose and patient goals for those who use them?

Steven:
Sure, so we're seeing an explosion of technology such as wearable devices. We're seeing smartphone apps, we're seeing more integrated medical record systems, and how can we use that to better improve care for our patients, the people that we serve? That's the ultimate goal.

Ivette:
And so as you're describing these, Steven, are some of them more related to monitoring patients, are some of them more related to engaging patients to do health management? What are we looking at?

Steven:
Sure. These technologies can actually help with a wide spectrum of things, not just the management or the sort of the tracking of people's health, but also helping doctors with diagnoses, helping track population statistics as well. Are we serving them well with our public health systems? So they're useful for all sorts of things. Anywhere there's data, anywhere there's communication, that's where technology can help really make things a lot more smooth the process.

Ivette:
So, Melissa, how can we link the whole concept of wellness and behavioral health as they relate to these new technologies?

Melissa:
So behavioral health and wellness are intricately linked, and we have known this for quite some time. I was trained as a nurse initially, and that is the area of my training – is basically to promote wellness and primary prevention. And so technologies now place patients right at the center of their own healthcare, and these types of technologies integrate both physical health and mental health. For awhile we had divorced the body from the mind, and I think we're starting to now

acknowledge that connection that's always been there because in order for people to be able to care for themselves for their physical health conditions, they have to be mentally well. And wellness is not just the absence of symptoms.

Ivette:
What is wellness?

Melissa:
So wellness is actually, as I said, wellness is not the absence of symptoms but rather flourishing in all different domains of life. That means physically, emotionally, financially, in all aspects.

Ivette:
Andrew, let's talk about some of these mobile apps that Steven started to mention. What are they; how are people using them?

Andrew:
OK. So looking at some of the behavioral change applications that are out there – Steven mentioned data. So we've got this wealth of data now about what we're doing, what we're thinking, what we're buying, and it's an opportunity to pull out signal and anticipate key behavioral moments, and then intervene in a way that hopefully promotes this wellness that we're talking about.

Ivette:
So talk to me about signal because our audience is probably interested in knowing what the definition of that signal. What do we mean by that signal?

Andrew:
Sure. I'll give you an example. Where I work we have developed and evaluated a recovery support application. It's called A-CHESS, a-c-h-e-s-s. And as a part of this application, we are pushing a survey once a week. It's 10 questions. It asks about recovery protection factors and recovery risk factors. The initial idea was that we would take this information, and then match up interventions that are features within the application to provide the type of support that they needed for that week. So for example, if a patient indicated they hadn't attended any meetings in the last week – that we can then send them to the meeting-finding feature.

Ivette:
And you would do that almost automatically. So the signals are almost like trigger points within an individual where the app would know how to respond to that individual's needs based on the answers to the questions?

Andrew:
Yes, but the first example is kind of a simplistic signal, a more exciting, and interesting and probably more powerful definition of signal in this regard is after

we accumulated weeks and weeks of data – we started to see trends. And when there were two consecutive weeks of risk factors going up and protective factors going down, often we saw relapse. So what we did is we took all of the data that we had, and we built a model to predict relapse or rather the probability of relapse. So for any given patient who is taking this survey, we now have a metric, ongoing, that indicates the likelihood of relapse within the next week, and it's not done. We can make this signal – we can pull more signal out from this data as we build new algorithms that then start to incorporate other factors.

Ivette:
I see. OK. Vikram, let's talk a little bit about the other kinds of mobile apps that are also available to support mental and substance use disorders.

Vikram:
What we're most excited about is the possibility that we can innovate new models of care by creating apps that actually empower clinicians to really structure the interactions with a client in a way that's tailored to their needs at any point during the course of their treatment process. One of the challenges that's been a standing challenge, really with apps that are out there, is they are fairly shrink-wrapped. They're not really built for clinicians to really drive on a day-to-day basis exactly what the client experiences, and so we are working towards the possibility that the clinician is really well-trained to understand what's going on with a client on a day-to-day basis, just as we have a relationship this way. They have a different kind of relationship this way – and we all know that – but there is a real challenge around training clinicians to understand the psychology of cyberspace, and how it applies to mobile devices and then to actually implement apps that actually apply that set of ideas to customizing care.

Ivette:
Very good. Steven, I'm going to go back to the whole notion of the different types. There are apps that people can use on their own, as Andrew was noting, and then there's also the apps where they have the virtual reality. Talk to us about the adoption of these apps. Are they being adopted? Are people easily interacting with them, and what is their success rate?

Steven:
Sure. So I think there are actually two parts to that question. The first part is: what kind of modalities can these apps help out with? So when we think about all the apps that are on Google Play, on the Apple Store, App Store, you can think of them in three ways. The first is as a communications medium. Can you use them to talk with your patients through video? And the second way you can think of them is as an extension of psychotherapy of your typical clinic, your face-to-face clinic. And the third way you can think of these apps is for new intervention techniques – just similar to what we heard about the A-CHESS Program and some of the other work that other researchers such as Dror Ben-Zeev at Dartmouth University, some of these similar apps are doing. The second

part I think you're asking is about virtual reality, and that's where you can actually simulate reality through helmets or glasses and have folks be immersed in 3-D virtual worlds, and they can simulate things like problem situations such as being at a party and being offered a drug, or simulate things such as phobias, heights and things like that.

Melissa:
Something that I have been working on with my own research is use of simulation. But instead of driven from the healthcare providers' standpoint, this is driven from the patients' standpoint, so the patient feels empowered when they go to the healthcare provider to ask for what they want and what they need. We do this in a three-dimensional environment and have had some promising results thus far. And so the other area of this is now patients have a digital companion literally right at their fingertips, and so they can use information in real-time, and even when health professionals are not available, they can have access to some evidence-based treatments or evidence-based therapies that can help them and help to bridge the gap. The other thing is we don't really know what happens necessarily after the patient leaves the office. They have self-report, but now we can naturalistically capture what's really going on.

Ivette:
Very good, and when we come back, we're going to continue to dialogue about these new technologies and their use. We'll be right back.

[Music]

Male VO:
It takes many hands to build a healthy life. Recovery from mental and substance use disorders is possible with the support of my community. Join the Voices for Recovery. Visible. Vocal. Valuable.

[Music]

Female VO:
For confidential information on mental and substance use disorders, including prevention and treatment referral for you or someone you know, call 1-800-662-HELP. Brought to you by the U.S. Department of Health and Human Services.

[Music]

Pamela S. Hyde:
SAMHSA's doing a lot of work in the area of health information technologies. We live in a digital age, and we live in an age where electronic health records, the Internet, social media and other ways of getting information and connecting with people are really critical to behavioral health. So we're doing everything from apps – so we have a new suicide safe app that we really have just released for

providers and working with their patients who may have suicide issues, and we're very proud of that. We have other apps about bullying and about other issues that for teachers and parents. In addition to that, we're really trying to look at Telehealth and Telemedicine and ways that we can get services to people if they don't live near a provider and frankly, also get support to those providers who may need additional expertise from providers who may not just live in their area. So for training purposes, for health delivery purposes, for support – we're also doing work with technology that would help people, for example, in recovery from substance use to remind them of things that might trigger substance use or help them avoid those things. So there's a lot of things I would recommend that people look at our website, and look at other of our available resources on how to use these issues and how to work on technology-related service delivery.

Ivette:
So Vikram, I'm going to start with you now. Talk to me about how these new technologies are helping individuals who have previously had a substance use disorder or a mental illness.

Vikram:
Sure. As Andrew mentioned earlier, there's apps like A-CHESS out of the University of Wisconsin-Madison. Dr. Lisa Marsch's team at Dartmouth has created one called TES, t-e-s, and they've been used to really connect people to community to provide a range of supports through the actual mobile device that they carry in their pocket, and really take advantage of the capabilities of mobile, which really is about being there all the time. And if there's anything that we know about substance use disorder, it's that it's with the client all the time, and so one of the real power – these new apps are taking advantage of the fact that, you know, you can connect to community, you can connect to meetings, you can connect to supports, you can potentially connect to clinical supports through the device. And they've really demonstrated a lot of efficacy in terms of improving – more than anything improving clients' commitment to the treatment process to really keep folks plugged in. We know that motivation goes up and down over the course of the treatment process, and it's been demonstrated that really keeping folks plugged in through a mobile app really adds to their motivation level especially when it drops.

Ivette:
You yourself are in recovery, Vikram, and have you used some of the apps yourself?

Vikram:
I actually haven't personally used either of the evidence-based apps that we're talking about. I have used a range of apps to support folks in recovery. As a person in long-term recovery, I am really passionate about providing people the supports that they need on a day-to-day basis, and there's such a diversity of what folks are going through at any given moment. So I found that what I use is

just a combination of all the technologies that are readily available whether it's texting, whether it's structured apps that really provide sort of group spaces. There's one called Life360 that there is some evidence-based research about that connects folks in teams – or it's really actually meant for families – but it lets you track where folks are. And so recovery houses use this to keep track of where folks are at any given time.

Ivette:
Well actually, the Oxford House has an app now where an individual may be looking for a spot where there's a vacancy within one of the Oxford Houses, and you can use the app to locate which house has a vacancy. So you're absolutely right, there are many uses. Melissa, I'm going to come to you because I think it also merits us talking about the different age groups of the individuals that are going to use the app. As you mentioned before, you're doing everything you can to create and generate evidence-based. Who are your subjects of the evidence-base? Is it mostly young people, or is it people of all ages?

Melissa:
Well, I think that we're seeing what we call the digital divide, which is groups of people that are using technology versus people that are not. That is starting to shrink. We know that young adults are early adopters. We also know that chronic illness usually has a precursor in young adulthood, particularly behavioral health issues. And so that's the age group that I'm trying to reach.

Ivette:
Very good. And Andrew, let's talk about – I have here in my notes wearables. You know, there are apps that are wearable. What is that concept about, if you can address it, and tell us more about it.

Andrew:
Sure. OK, so a wearable would be a sensor that's on your body somewhere. Some examples might be the new Apple Watch, and Steven's got a version over there. And that's going to detect certain biometrics like heart rate, potentially. Some of the more sophisticated ones detect things like Galvanic Skin Response, which is more or less perspiration. In fact, I did a paper on this case study of one, and I wore what's called a bodybugg for two weeks, and then journaled all of my affect throughout that week, and then did a retro comparison of what were–

Ivette:
So does it denote stress like if a person may have a mental illness, for example, a certain condition and basically does this actually – can they tell when the person is becoming more agitated, or more stressed?

Andrew:
You might. You have to be cautious with this stuff. Level of perspiration and heart rate might be useful. Actually throughout that two weeks when I was

wearing the body band and, at one point I was playing basketball. At another point I was in an argument. A couple of the metrics looked the same; my heart rate and sweating went up. The accelerometers on the device, though, indicated movement in one case and stillness in another. So that combination of metrics might indicate that perhaps there's a negative affect accompanied with whatever the activity is. But you need more information to be sure. So just like with any of this stuff, I'm here to promote it, but to be skeptical without being cynical.

Ivette:
Yes.

Melissa:
And if I may just add to that, that I think that we are beginning to become more connected, but I think that we have multiple sources of data that we can now draw from that we haven't even began to tap. For example, we now have phones that will know that we have patterns in which we call people, or even our normal movements, or even what we call metadata – which are small pieces of data that don't necessarily mean that they're words, or they're pieces – but what you were talking about earlier about deviations from the signal. And the signal may not always be biologic, but may be the rate in which, or the frequency in which people post – or do they post into their Facebook in the middle of the night versus during the day. So when we begin to compile these things, I think that our models will get better and more sensitive to detect risk.

Andrew:
And looking forward, not only can we create population level models but optimally we would, using all of this data, create individual level models. So a combination of the wearables, your activity on your phone, maybe more, maybe we could layer on top of that environmental factors that are specific to your location. All this stuff via machine learning and other magic black box techniques that need to be developed yet, we can create individual predictive models for both positive and negative for either outcome.

Ivette:
So Steven, this is sounding like the total overwhelming, overpowering sense of self being captured on a moment-by-moment, and how does all of this self-tracking enhance wellness in behavioral health?

Steven:
Well, the key thing is with all this information and piecing together the signal that Andrew mentioned – it provides feedback to the person who's wearing these sensors and these devices. So the feedback can come in the form of, "Hey, you're not walking enough, you need to walk more steps." Or your watch might say, "Hey, you need to exercise more, you have been sitting still for two hours." So all this feedback can actually intervene at the right moments, maybe for even, say, in the form of addictions – you know – you were mentioning, Vikram, about

these apps that can help promote recovery from, say, substance use. And one particular app, Step Away, I know from the University of Alaska, actually will cue you when you're near a liquor store, or if you're near a problematic area. So all these, like, just-in-time interventions, the feedback loop, can help promote wellness.

Ivette:
So Steven, actually what happens is that it almost can be an aid to cognitive behavioral therapy that is being applied because if I'm going to be near a trigger point of places that I shouldn't be near because I know for a fact that I may be in danger of doing something that is going to go counter to my treatment plan, then that phone will actually talk to me and say, "Danger, danger."

Steven:
Yeah, and it's kind of like having a sponsor that's always with you except they're small, in a box and in your pocket. There are some things that you need to refine with these algorithms, of course, and they're not quite where they need to be yet, but you can combine potentially having human sponsors with these intelligent programs that can help you on your way to recovery or your wellness.

Ivette:
Vikram, very quickly, you have been around individuals of your age group that are in recovery and so on. How do you see the adoption of these technologies? Are they being adopted, or what is your sense of the acceptance of them?

Vikram:
I think there's a lot of interest for young people growing up in digital culture, being digital natives. They don't think of it as, "I'm adopting an app." They're just living, and it happens that certain apps are helpful in the process of whatever it is they're undertaking to do. So when young people find apps for recovery, it's just sort of part of their lifestyle. And the thing is that when you talk to them about the possibility that their clinicians could really be engaged with them over their apps and really helping them on a day-to-day basis coordinating their community, creating a real recovery care context with them – the response I've consistently gotten from young people is that doesn't exist yet.

Ivette:
So they actually don't believe that that is possible.

Vikram:
No, no – quite the opposite. They are surprised it doesn't already exist yet. There's this kind of sense of, of course that would exist, that makes perfect sense, why wouldn't I coordinate my support system through my clinician, through my peer supports? And so there's a real lag in terms of what clinicians are able to support young people with in terms of what they're ready to adopt and accept, versus what we're able to offer.

Ivette:
And when we come back, we'll be talking more about these issues. We'll be right back.

[Music]

Vikram:
I found recovery in 2002 as a student at Rutgers University. I got to a point where I realized I really needed to make some big changes. I'd been struggling with depression and binge drinking, and through the Rutgers Health Services, I got to the Rutgers Collegiate Recovery Program run by Lisa Laitman. And through that I got into recovery housing, got into a range of recovery supports, got plugged into recovery community, and it made all the difference when it came to my ability to actually complete school successfully and to move into the workforce as a technology professional.

After a number of years of working in the technology industry, I realized that I had these two real passions in my life. One was tech, and the other was really supporting people in their recovery. And I realized after looking at what was available out there that there weren't the tech tools that folks needed to be able to really support each other in their recovery, both as a peer supporter, as well as a clinician, and that led me to found Technotherapy.org. And what we're about is really creating the possibility of technology-enabled recovery care, and what that means is really creating that clinicians are well-trained to really understand how do relationships occur differently, the clinical psychology of how apps change relationships, as well as the technology that's needed to really advocate for the development of technology. And one of the first places we're working is with collegiate recovery programs to really support the needs of collegiate recovery programs in terms of the technology that young people need on campus to stay connected and really pursue their recovery.

It's a gift; it's a real gift to be able to do this work because it's just such an expression of all of the gifts that I've been given. Being able to complete the degree at Rutgers through the Collegiate Recovery Program, and now to be able to do technology-enabled recovery care as my day-to-day work, it's just really something I'm incredibly grateful for.

[Music]

Shane Hudson:
Central Kansas Foundation was founded in 1967 in Salina, Kansas to provide drug and alcohol treatment services. Since 1967 it's expanded to four additional communities and within those treatment services we provide, we've also expanded into medical settings.

We do have detoxification services, residential services, outpatient services, and there are varying degrees of that as far as how often you attend, and we have an after-care service. So that whole continuum of care – we can go from beginning to end and provide every service along the way that's needed.

Our mission I think makes us very unique because we do not like to be the people who say no, that there's always an open door, there's always someone saying, "How can we help you?"

Within the last year, we began using an app called A-CHESS, which stands for Addiction Comprehensive Health Enhancement Support Systems. That app has been a great tool for our patients. They can have support with them anywhere they go.

Don Greene:
I believe this is in the bright future of recovery because this allows them to connect with their teammates in treatment, their friends in recovery; the counselor is available. Communication is a very important aspect of recovery.

Sometimes when you go into recovery, at times you feel like you're isolated, you're away from the rest of your old friends, but this is a whole new gateway of new friends that they can talk to.

Jennifer:
Never being alone is very important; we all need that. I think that's one of the biggest parts of our addiction is when we feel alone that drug was always the first thing we turned to, so we didn't feel scared, or alone, or hated or anything else. And with the app, we're not alone, at all.

Don Greene:
We've averted some relapses by using this application.

Shane Hudson:
Just with technology in general changing, Central Kansas Foundation has to be changing as well – utilizing technology in new ways, utilizing technology more than we have in the past. A phone app is a great way to start that. A-CHESS is great for that, as you move into the future of treatment delivery utilizing apps more, utilizing Telemedicine services. We still want to have counselors available, build a great rapport, provide a quality service to patients, so you have to consider that and balance it as you move along, but instant access with technology is great, and it's really aligned with our core mission to provide services right away and remove barriers.

Ivette:
So Steven, we heard Vikram actually talk about the fact that some of the individuals that are on the younger side of the equation would like to see more.

How quickly do you think that we will get to a point where the technology will actually catch up to what the demands are of the marketplace?

Steven:
Well, I think that there are some significant barriers that we need to overcome. We have to overcome – it's not a matter of the technology itself. It's a matter of whether the technology is usable, whether we can craft policy and legislation to support that and the reimbursement as well. So, look, the demand is already there. We already know that lots of young folks want to use this, and we did a study surveying people in outpatient psychiatric clinics, both at actually in Harvard University, University of Wisconsin-Madison and Louisiana State University – and in my home base of Sacramento. People under 45 years old, 60 percent of them have smartphones, and also want to use it for their care. And even people who are above 45 years old, they still want to use it, too. So the demand is there, but I think it's a matter of can we tailor it to the older crowd as well as making it accessible, and making sure that the reimbursement models and the business questions are in place.

Ivette:
The business model, yeah. Melissa, getting to the older generation, how do you think that we can promote it? Because obviously by the use of these technologies, we can save money. I think there's a way as we're looking to further reduce the cost of healthcare that we can use these technologies to do so, correct?

Melissa:
Yes. I think it's really thinking about what Steven said about the interface and the usability that a lot of times older people are intimidated by technology, so some of that is making sure that it's very user-friendly, and they perceive it as not difficult but rather it adds to their ability to live a healthy life

Ivette:
But it goes beyond the monitoring, I think, that Andrew was talking about. It really is – well, it's about monitoring would be a great part of it because they can reach their physician actually in a more appropriate way in a more prevention mode, rather than wait until they really go into a crisis, correct, Andrew?

Andrew:
Yeah, I think so. When it comes to the tension that you're talking about with this age difference, it raises a few interesting new questions because when you look at younger people – and this is from the research we're doing – the use of the application between younger and older folks, it's the same. What the younger people do is they use it differently, and they use it as one of many apps on their phone. Whereas older people, if they find a value in an application, the phone becomes all about that app, generally speaking. Now, how do you design for younger folks versus older folks? Well, the big problem is with younger folks,

usability is everything. Familiarity. There are kind of customary ways to get around in an application. You will lose them if they open it up and don't immediately understand what to do. That's expensive. But the way the research is currently funded, you suggest a feature set, and you build that minimal feature set – and you don't spend enough time focusing on usability to get over the hump with the younger people. And then the whole conundrum of how do you design for both, how do you adopt all those conventions while making it accessible to older folks?

Ivette:
And not only that, Vikram, how do you do what Andrew said in the context of mental health solutions, and solutions for those that have a substance use disorder?

Vikram:
It's a real challenge because there's a real – and this is an under-explored area – there's a real interaction between the specific challenges that people deal with, and how they use their devices and what kinds of interventions might be most effective. For example, if someone suffers from social anxiety disorder, they're not going to want to necessarily participate in lots of social functions, and so we really have to train clinicians better – and also really build the apps better to focus on how does the specific needs of the client and their particular challenge interact with what the technology does, and really give the clinician power to really drive what's most clinically effective.

Ivette:
And, Steven, he just mentioned a very key factor, the workforce, the healthcare workforce. What would you see that needs to happen within the workforce itself, and how do we train people?

Steven:
Right. It's actually very similar to what Andrew mentioned with making it usable, making it immediately workable once they open the application. So, look, I remember going through medical school just a few years ago, and I saw the transition from paper binders – binders of paper – to electronic medical record systems and applications. And so they wanted us to do all these, sort of, training sessions, day-long training sessions, online training modules as well. And it's partly because the interfaces that we're providing those applications were built towards minimal feature sets and weren't built with how people would interact with applications in mind. You would take 10 clicks to order a medication; you would take a lots of different sort of convoluted pathways just to get things done. So making it easier to use, making it usable, and maybe also teaching – putting it as part of the curriculum for medicine and also psychology, sort of how they can adapt to new technologies – that's important because that wasn't part of our curriculum at all.

Ivette: I saw you writing something. Do you want to add?

Vikram:
Absolutely. Workforce is one of the huge challenges with this and, you know, in most behavioral health curricula, and also medical health curricula, there's really practically no training at this point about how can clinicians understand what's going on in the relationship – whether it's clinically effective to even suggest maybe track this or monitor that. We're just not quite there yet. And so one of the really transformational things I think is going to be when we really integrate this research into training that is really standardized as part of the clinical training process.

Steven:
And I've got to actually add to that, too. I think slowly medical schools, at least from the world of medicine, they're realizing this. So for example, folks at the University of California, Irvine, they give out Google Glass and iPads to familiarize medical students with this technology and be integrated into the curriculum now. But that was after I left so that was like – but it's very new. It's very new.

Vikram:
It is, and definitely the medical side is way out in front with this stuff. On the behavioral health side there's still a lot of the old guard that kind of really views the clinical process as what happens in the office.

Ivette: Exclusively.

Vikram:
Exclusively, and the whole idea that you're going to extend care and extend your sort of purview as a clinician all the way into the person's life using a mobile device is really a fundamental idea that just needs a lot more training and advocacy.

Ivette:
And they would view it, Melissa, am I right, in terms of privacy issues and how much do you store the data? What kind of data are you keeping – particularly with AA, for example, with the whole issue of anonymity? Is that a factor?

Melissa:
So I think that it is a factor and I actually was at a White House conference in 2013 and discussed this about regulations and the fact that anyone can develop an app and it's very concerning to me that people journal and put information there and may not know where it goes. While it may not fall under the Protected Health Information that's in the clinical study, it still is data pertaining to health and right now there seems to be a lot of gray area and that sort of has been my concern that I voiced related to privacy and safety, not so much related to clinical

care associated with the healthcare system but medical apps that are being put on the marketplace.

Ivette:
And Andrew, as you're looking at your new developments, does that come into consideration, the whole issue of privacy and how you protect the individual's right to that?

Andrew:
That's a really interesting one because there is a generational divide. I work with another program where we're trying to support senior citizens in maintaining their independence and one of the big problems there is the fear of being scammed. They won't offer any personal information. Whereas working with teens in both recovery and asthma spaces, they are all too ready to be entirely transparent. Now, the fundamental trade-off there is privacy versus convenience and historically as far back as you care to go, once the convenience overcomes the privacy, whatever generation we're talking about is willing to take the new thing on. So I think the move here is not necessarily to say all of this personal information should never leave an individual's sphere, but say how can we minimize the damage while taking full advantage of it therapeutically. So there's gonna be a trade-off.

Ivette:
There is a trade-off, but are these issues that are discussed as apps are developed and as we look at how we are approaching these new technologies.

Andrew:
On a technical level, the research that I do—we're overseen by the IRB, we have to be HIPPA sound and everything. So what we do is we store this information in the safest way we can which is on a secure server and if a device is lost, we can remotely turn it off and all of that data is wiped. So we can do a lot but we can't contain it. There's no such thing as airtight when it comes to this stuff.

Ivette:
Well, we've known in the news recently that nothing is airtight. So when we come back, we'll continue to talk about these issues and get into some final thoughts. We'll be right back.

[Music]

Daryl W. Kade:
People with behavioral health disorders tend to have a higher level of risk factors that influence physical health, including poverty, social isolation, and trauma. Wellness concerns maintaining an overall quality of life. And the pursuit of optimal emotional, mental, and physical health is about having purpose in life, active involvement in satisfying work and play, joyful relationships, a healthy

body and living environment, and happiness. SAMHSA works to ensure that individuals who are at high risk for or have a mental and/or substance use disorder have access to and receive appropriate behavioral health services as well as primary health care services to prevent and treat other medical conditions and to maintain health and wellness. One example is SAMSHA's Wellness Initiative.

Male VO: For more information on ***National Recovery Month***, to find out how to get involved or to locate an event near you visit the ***Recovery Month*** website at recoverymonth.gov.

[Music]

Jerry:
Technology in recovery I feel is a tremendous step forward. The ACHESS App is good like when I can't make it in and I'm not around people of recovery, I have all the people in recovery in my pocket so it keeps me connected.

Don Greene:
The sentinel button gives them immediate access to either a recovery coach, their counselor, and our nurse's station, so that's 24-hour access they can get a message to somebody. When you use the sentinel button there's usually something going on. You're reaching out for help.

Jennifer:
The instant connection is awesome. It can be the middle of the night and somebody will call you back. It can be anything. If you're having a bad day or you say something in a comment on there you got 5 people calling you at least… amazing that there's that much support out there, it makes me feel good.

Shane Hudson:
There's a GPS function in the app so they can lock in a GPS coordinate of a high risk place from their past that they might have used in the past and the phone alerts them, the app alerts them when they're close to that area, so they've enjoyed that component as well.

Jerry:
It actually wakes me up with a daily reflection and a survey asking me how do you feel, are you confident you'll stay clean today? And just that little notification of acknowledging that I am in recovery and that I need to focus on that is a main help in my recovery.

Shane Hudson:
I definitely believe technology being a part of the treatment program and the services that follow treatment is very essential to people being successful in treatment.

Jennifer:
I think it's different this time around having this tool because I'm not only getting the help, but I'm helping people also, so it's giving back. I haven't ever felt better. Ya know, it's me again, I've found me this time.

Ivette:
Steven, there are a host of apps that SAMHSA has done. I know one of them is Talk They Hear You where parents or caretakers can actually talk to their kids and really talk to them about underage drinking. I know that you were looking on our site and you saw some of them. I'd love to get your impression on them.

Steven:
Yeah, so I think what's been exciting is all of these apps, a lot of institutions such as not just SAMHSA but also the Veterans Affairs, the Department of Defense, have created their own mobile app stores and their own mobile app suites. So one of them that I recently looked at was SAMHSA's Suicide Safe app which is available on Android and iPhones and this actually coaches clinicians in learning how to do risk assessments for suicide safety and what to do if someone is suicidal, and it even provides some cases, too. For example, patients who are suicidal and what to do and also link them up with resources in their community.

Ivette:
Very good. And, Melissa, I know that you also looked at some of our options.

Melissa:
Yes, and I was thrilled to see this and one in particular I was interested in is Know Bullying, and that's k-n-o-w bullying. And it looks like that it has been examined and when parents talk to kids about bullying that that can be enough to prevent or reduce bullying at school. And there's some conversation starters and some really great tools in that app for parents and for teenagers.

Ivette:
Andrew, talking about the government goes through a process of when we develop either programs or materials we test. Let's talk a little bit about best practices because in this plethora of options that people are going to have in terms of choices to adopt or not, how can we really ask consumers pick the best possible app and know that it's a best practice?

Andrew:
Unfortunately, at this point the truth is that's a tall order because there are dozens, if not hundreds of applications if you search the iTunes store, PlayStore, and there are a lot of them that are clearly bad ideas. They might be built in such a way that they tend to isolate rather than connect. They tend to distract rather than engage. And I think those are red flags. Beyond that, if you look at some of the top hits and you wanted to evaluate them—

Ivette:
And what do you mean by to hits?

Andrew:
Top hits, the most popular applications that are built because, again, anybody can build an application and put it up on the store. Their intentions may not be so good. There are desperate people out there who want to get help for their kids, etc. so there's a lot of opportunism that's going on, and I think the natural crowd sourcing engines that are in place have weeded a lot of the bad stuff out. If you were to do a comprehensive assessment of what's out there, you're gonna see a lot of immediately dismissible applications.

Ivette:
Because consumers themselves, Steven, are vigilant or should they be more vigilant and how can they train themselves to verify the validity of some of these instruments?

Steven:
Sure. The consumers need to be vigilant because the government—actually, the Food and Drug Administration recently ruled that they wouldn't be looking over a majority of these applications. So there's a lot of bad eggs out there, a lot of poorly designed apps, too. So one way to approach this is to have criteria when you're going to the apps store, when you're going to a grocery store, say you have some things in mind, price, who manufactured it, who manufactured your cereal or your meat products, etc., does it look good and do a lot of people buy it? So when I go to the apps stores, I look at is it backed by a major institution, is it backed by SAMHSA, VA, Mayo Clinic, University of California, or how many downloads has it had? And then there are some other criteria that some of my colleagues and I are publishing, too, about whether it's based on evidence, whether they have a privacy policy, whether it's even in the proper language, things like that, just to make sure that the apps are safe, and then you can always run these by your doctor or clinician and some other associations like the ADAA, Association for Depression and Anxiety in America, or some other groups are trying to come out with these criteria as well.

Ivette:
Very good. It's excellent to hear that. Vikram, in terms of individuals in recovery, what would you recommend for them to become, in addition to what Steven has noted, to become strong consumers?

Vikram:
I'd say the most important thing is really for folks in recovery to be mindful about what are their needs in terms of their own recovery and where they're at in the recovery process, and to implement or to look for solutions that really reflect those needs in terms of their recovery. One of the realities of technology is

there's a lot of new stuff and there's a lot of gee whiz. Anecdotally, I've learned from app developers that on day two app usage, whatever app you download in the health space, on day two usage can be as high as 75 or 80%; by day 30, it can be down to 1%. And so longevity is really important and so when folks in recovery think about do I want to use an app to stay in communication with my support network or to really enhance my recovery in some way, one of the key things you really want to look at is how do I bring other folks on board and how do I really build this into the real life recovery work that I'm doing.

Ivette:
Very good. And now we've gotten to the part of the show where I'm gonna let each one of you give us some final thoughts and we're gonna start with Melissa.

Melissa:
So something that I just really wanted to talk and sort of leave with is the fact that we spent a lot of time talking about people that interface with the healthcare system and we know there's a tremendous number of people, particularly people suffering from behavioral health problems that are ashamed or experience stigma that do not make it to our door, and these people go on to have chronic other medical illnesses and even die early deaths. So the care in the community is essential and this can be a way that people can receive potentially in the future some care, and we can reach people not only here in the United States but around the world. There's a growing middle class around the world and people are wanting—and a growing technology boom and so people will have access to this sometimes even more so than food and water and so this is a really great opportunity for us to reach people that are not able to interface with care and bring care to them. And I just also want to underscore the importance, as we move forward, about the rigorous evaluation of these therapeutics in helping, as we discussed on the panel, helping the public better able to understand what is a good app versus a not so good app and thinking about ways we can use this to open the door for new treatments, not just face-to-face treatments and putting them on a mobile app but brand new treatments.

Ivette:
Very good. Thank you, Melissa. Steven.

Steven:
Sure. It's interesting because I'm an unusual bird because I've studied software engineering and computer science and business strategy and medicine, and now mental health through psychiatry and so I've been able to see the trajectory of these technology trends and it's very exciting what technology can do for our health and our wellness and well being and recovery, too. A lot of researchers, I'll say if there's one thing that we could take away is keep an eye on some of these researchers who are—this panel, for instance, people who are developing these amazing things and validating them. People such as Peter Yellowlees at the University of California Davis. He's doing a lot of work with telemedicine and

new models of care. Don Hilty at the University of Southern California, John Torous at Harvard University, and folks like that. They're looking at Google Glass, they're looking at wearables, virtual reality as well. It's very exciting.

Ivette:
Very good. Andrew.

Andrew:
Sure, okay. Well, I cautiously submit that we're ripe for a paradigm change here, and when I say here, I'm coming from the behavioral health side and one of the frustrations that I have as a developer in this case is that we're trying to oftentimes take old models that were developed in an environment that didn't involve all this richness of data, and then apply them using the new platforms; whereas the real opportunity is to put those models aside for now at least in the research space and open ourselves up to the idea that those models were built in a very limited environment. Let's build now in this new environment, new models.

Ivette:
Very good. Vikram.

Vikram:
I absolutely agree with what Andrew just shared and I really see that there's a possibility of really transforming how we think about care and how folks can be related powerfully for supporting their own health, and that we need clinicians to really have the tools and a big part of that is the advocacy around actually getting them paid. One of the most basic conflicts that I run into when I talk to clinicians is they've got someone in the waiting room who's billable and they've got someone contacting them on their mobile device whether it's by text message or email, and this person who needs maybe much more present and urgent is not billable and that basic conflict between really making sure that clinicians have the ability to sustain their work using mobile devices with their clients is really fundamental. And if we can do that and make it part of the standard of care, we can really operationalize a lot of this research that's been great and that we've been able to do.

Ivette:
Immensely important point and I want to remind our audience that September is ***National Recovery Month***. I want to encourage you to visit our website, http://recoverymonth.gov/ and create events not only in September but year round. I want to encourage you to also support those in recovery because at the end of the day that's what it's all about. Thank you for being here. It was a great show.

[Music]

Male VO:
To download and watch this program or other programs in the *Road to Recovery* series, visit the website at recoverymonth.gov.

[Music]

Female VO:
Every September, ***National Recovery Month*** provides an opportunity for communities like yours to raise awareness of mental and substance use disorders, to highlight the effectiveness of prevention, treatment and recovery services, and show that people can and do recover. In order to help you plan events and activities in commemoration of this year's ***Recovery Month*** observance, the free online ***Recovery Month*** kit offers ideas, materials, and tools for planning, organizing, and realizing an event or outreach campaign that matches your goals and resources. To obtain an electronic copy of this year's ***Recovery Month*** kit and access other free publications and materials on prevention, recovery, and treatment services, visit the ***Recovery Month*** website at recoverymonth.gov, or call 1-800-662-HELP.

[Music]

[Drumming]

Female VO:
Staying on course without support is tough. With help from family and community, you get valuable support for recovery from a mental or substance use disorder. Join the voices for recovery, visible, vocal, valuable!

Male VO:
For confidential information on mental and substance use disorders, including prevention and treatment referral for you or someone you know, call 1-800-662-HELP. Brought to you by the U.S. Department of Health and Human Services.

[Music]

END.